Jesus Mancilla

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Applied Scientist

Innovative professional with progressive experience driving AI-powered product development, enterprise architecture, and scalable ML/GenAI solutions. Demonstrated history of success in architecting AI systems and establishing autonomous agents, vector databases, and reusable AI component libraries. Expert in designing and conducting experiments to explore and validate new concepts. Highly skilled in using scientific principles and methodologies to create practical solutions for real-world challenges. Proven ability to translate business vision into technical roadmaps, optimize operational workflows, and deliver measurable results. Accustomed to prepare detailed reports and presentations to communicate findings.

Areas of Expertise

- Systems-level Design Thinking
- Computational Modeling Analysis
- Data Pipeline Management
- Analytical Reasoning
- Python
- JavaScript/TypeScript
- NLP
- Transformers
- Data Visualization
- KPI Development
- Data Processing
- LangChain/LangGraph
- PyTorch
- Quantitative/Qualitative
- User Experience (UX)
- Project Leadership
- Feature Engineering
- R
- Machine Learning
- LLMs
- Prompt Engineering
- Predictive Modeling
- Vector Databases
- Workflow Optimization
- React/Next.js
- Scikit-learn
- Performance Evaluation
- HCI/UX Research
- LLM Evaluation
- Attention to Detail
- SQL
- Deep Learning
- RNNs
- Statistical Analysis
- Trend Analysis
- Building Automation Pipelines
- FastAPI
- TensorFlow

Career Experience

Co-founder & AI Solutions Lead at Argomai, Houston, TX (Remote)

January 2025 — Present

Engineer AI systems including vector databases, retrieval pipelines, reusable AI component library, and autonomous agents by utilizing LLMs. Define enterprise architecture for AI initiatives while establishing service boundaries, domain models, data governance, and NFRs to manage highly scalable, customer-facing products. Develop shared architectural vision with executives, aligning GenAI/ML technologies to business goals and translating vision into actionable technical roadmaps.

- Reduced multipage document classification time from 90 minutes to under five minutes by implementing advanced automation methods.
- Decreased project management hours on status reports from six hours per week to under one hour via streamlined reporting processes.

Senior Quant User Experience Researcher at Meta, Houston, TX (Remote) — January 2024 — January 2025

Optimized survey data analysis by devising Python-based analytical tools, ensuring efficient processing, and supporting researchers across multiple projects. Provided data-driven insights by integrating behavioral data from editor logs with in-app surveys through advanced data science and machine learning techniques.

- Minimized analysis time from 30 hours to under eight by creating hybrid machine learning classifier.
- Doubled survey output by invigorating analysis processes.

Senior User Experience Researcher at Roku Inc., San Jose, CA — January 2021 — November 2023

Delivered detailed survey insights by developing modular survey analysis system, integrating machine learning for statistical analysis and NLP-based categorization of open-ended responses. Led UX research projects including planning, execution, analysis, and reporting.

- Extracted actionable product insights by carrying out quantitative and qualitative research on 70+ million devices and behavioral log analysis.
- Cut weekly report generation time from four hours to under five minutes by using ML automations and GenAI for executive summaries.
- Raised organization-wide data accessibility; created AI-powered indexed database of Roku's UX and CI research.

Senior User Experience Researcher at Walmart Global Tech, Sunnyvale, CA — August 2019 — November 2020

Defined key performance metrics and drove enhancements through data analytics projects for Sam's Club's mobile app using Tableau. Conceptualized user experience strategy and made design decisions by providing synthesized research insights to product managers, designers, and executives.

- Improved user's experience by integrating user interaction data with business metrics via data-driven approach.

Data Scientist at Scrapworks Inc., Palo Alto, CA — September 2017 — August 2019

Created NLP-based merchandise classification project, supporting patent filing and enabling data-driven strategic decisions. Collected, cleaned, and assessed structured and unstructured data from multiple sources. Collaborated with engineering, product, and business teams to integrate data-driven solutions into workflows.

- Achieved 60% reduction in prediction error by utilizing deep learning model for commodities futures forecasting.
- Accelerated 30% sales growth via development of dashboard analyzing and filtering 20 years of sales data.

Education

Master of Science in Computer Science (HCI/AI Focus)
Autonomous Technological Institute of Mexico, Mexico City, Mexico

Bachelor of Arts in Psychology
University of Colima, Colima, Mexico

Additional Experience

User Experience Researcher at Suggestic, Mexico City, Mexico — December 2016 — September 2017

User Experience Researcher at Stanford University, Stanford, CA — May 2016 — November 2016

User Experience Researcher at ITAM, Mexico City, Mexico — August 2014 — May 2016

Machine Learning Projects

Research Librarian Project

Developed AI-powered index for UX and CI research, enhancing data retrieval with innovative indexing algorithm, vector stores, and semantic retrieval.

Modular Survey Analysis System

Formulated end-to-end ML report generator for survey analysis, integrating context-aware logic and autonomous clustering algorithms, improving efficiency and resource utilization.

Customer Support Bot

Defined reference architecture for LLM-augmented support chat, integrating LLMs, Retrieval-Augmented Generation, and observability stack.

Languages

Spanish & English

Fluent